

Regularized wavelets for processing non-stationary signals with a correlated noise

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Abstract

This paper describes regularized wavelets and numerical algorithms for a regularized wavelet-analysis based on the bayes strategy. This program includes the investigation of a possibility for finding a basis in terms of a multiresolution analysis under condition that a scaling function would satisfy the properties of a regularization operator and an orthonormal basis simultaneously. Examples of application of the regularized wavelets in the differentiation of composite simulated spectra with a fractal noise are considered.

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Keywords

Ill-posed inverse problem, Regularization, Wavelet